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New species and records of terrestrial Isopoda (Crustacea, Oniscidea) from Socotra Island, Yemen

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Abstract

Twenty-seven species of terrestrial Isopoda are recorded from Socotra Island (Yemen). One genus (*Dumetoniscus*) in the family Bathytropidae and three species (*Serendibia cavernicola*, *Dumetoniscus graniticus* and *Platyarthrus alticolus*) are described as new. A key to the 41 species of Oniscidea presently known from the Socotra Archipelago is given. The new records confirm the high number of endemics present on this archipelago.

Keywords

Crustacea, Isopoda, Oniscidea, *Dumetoniscus* gen. n., *Serendibia cavernicola* sp. n., *Dumetoniscus graniticus* sp. n., *Platyarthrus alticolus* sp. n., key, distribution, Socotra, Yemen.

Introduction

Up to date 38 species of terrestrial isopods were known from the Socotra Archipelago (Ferrara and Taiti 1996, Taiti and Ferrara 2004) with a very high number of endemic taxa and biogeographical affinities with East Africa, the Oriental Region and, to a lesser extent, with the Mediterranean Subregion. These data were based on a large amount of material collected mainly by S. Taiti during a visit to Socotra, Darsa, Samah and Abd

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al-Kuri islands in February 2000, and by A. Van Harten, W. Wranik, H. Pohl, K. Van Damme, P. de Geest and M. Apel in previous years.

This paper deals with the terrestrial isopods collected during a second visit of S. Taiti to Socotra Island in January 2003. During this trip investigations were carried out also in some parts of the island where no collection of Oniscidea had been previously made, such as the inland western and the extreme eastern areas. Twenty-seven species of terrestrial isopods are recognized in the present study, and one genus and three species are described as new.

Material and methods

Specimens have been stored in 75% ethanol and identifications are based on morphological characters. For each species citations referring to the Socotra Archipelago, the material examined, distribution and, when necessary, remarks are given. The new taxa are illustrated with figures prepared with the aid of a camera lucida mounted on Wild M5 and M20 microscopes. An identification key, a list of species and an updated distributional map for all the oniscidean species of the Socotra Archipelago is presented.

The material is deposited in the collection of the Museo di Storia Naturale dell'Università, Sezione di Zoologia "La Specola", Florence (MZUF). Half of the material collected has been selected for future deposition in the planned Natural History Collection of Yemen (NHCY), and it is temporarily kept in MZUF.

Systematic account

Key to species of terrestrial Isopoda from the Socotra Archipelago (modified from Taiti and Ferrara 2004)

1. Uropods entirely covered by telson, not visible in dorsal view ..... ***Tylos exiguus*** **(Stebbing, 1910)**
– Uropods clearly visible in dorsal view **2**
2. Antennal flagellum consisting of more than 10 segments **3**
– Antennal flagellum consisting of two or three segments **5**
3. Eyes consisting of many ommatidia (>300); uropodal endopod and exopod inserted at the same level **4**
– Eyes with few ommatidia (about 10); uropodal endopod inserted proximally to exopod ..... ***Olibrinus antennatus*** **(Budde-Lund, 1902)**
4. Maximum length 10 mm; male pleopod 2 endopod with distal part bent outwards and pointed apex ..... ***Ligia dioscorides*** **Taiti & Ferrara, 2004**
– Maximum length 25 mm; male pleopod 2 endopod with distal part straight and bilobed apex ..... ***Ligia pigmentata*** **Jackson, 1922**

5. Antennal flagellum consisting of three segments **6**
– Antennal flagellum consisting of two segments **18**
6. Body colourless; eyes absent 7
– Body pigmented; eyes present **14**
7. Maximum length <1.5 mm; vertex and pereionites distinctly tuberculated ... . ***Adoniscus fluviatilis*** Taiti & Ferrara, 2004
– Maximum length ≥ 3 mm; dorsum smooth **8**
8. Noduli laterales absent; outer branch of maxillule with some setae and no penicils; margins of pleopod 2–5 exopods fringed with long thin setae..... **9**
– Noduli laterales present; outer branch of maxillule with two large penicils; margins of pleopod 2–5 exopods not fringed with thin long setae **10**
9. Telson much shorter than uropodal protopod; male pleopod 1 exopod with very long posterior lobe; endopod straight .... ***Paradoniscus aquaticus*** **Taiti & Ferrara, 2004**
– Telson surpassing posterior margin of uropodal protopod; male pleopod 1 exopod with two long lobes on outer margin, endopod strongly bent outwards ..... ***Paradoniscus degeesti*** **Taiti & Ferrara, 2004**
10. Noduli laterales on pereionites 2, 4 and 7 distinctly more distant from lateral margin than those on the other pereionites; outer branch of the maxillule with some cleft teeth.... ***Burmoniscus anophthalmus*** **Taiti & Ferrara, 2004**
– All noduli laterales more or less at the same distance from lateral margin of pereionites or only noduli laterales on pereionite 4 more distant from lateral margins than the others; outer branch of the maxillule with all teeth simple **11**
11. Body about 6 times longer than wide; antenna with third article of flagellum bearing a couple of large petaliform aesthetascs..... ..... ***Serendibia filiformis*** **Taiti & Ferrara, 2004**
– Body maximum 4,5 times longer than wide; antenna with third article of flagellum bearing thin cylindrical aesthetascs **12**
12. Telson semicircular; male pleopod 1 endopod with a large subapical rounded lobe fringed with flattened setae on medial margin .... ***Serendibia samhaensis*** **Taiti & Ferrara, 2004**
– Telson with distal part triangular, broadly rounded apex; male pleopod 1 endopod without lobe on medial margin..... **13**
13. Antenna with fifth article of flagellum distinctly swollen; male pleopod 1 exopod with a short posterior point ...***Serendibia vagans*** **Taiti & Ferrara, 2004**
– Antenna with fifth article of flagellum not swollen; male pleopod 1 exopod with a distinct posterior point bent outwards..... ..... ***Serendibia cavernicola*** **Taiti & Checcucci, sp. n.**
14. Body pale with isolated chromatophores; noduli laterales on all pereionites more or less at the same distance from lateral margin..... **15**
– Body normally pigmented, without isolated chromatophores; noduli laterales on pereionite 4 and, to a lesser extent, 7 clearly more distant from lateral margin than those on the other pereionites **16**

15. Male pleopod 1 endopod with a hump on outer margin and a very small lobe at apex ..... ***Littorophiloscia culebrae*** **(Moore, 1901)**
– Male pleopod 1 endopod without hump on outer margin and with two triangular lobes at apex..... ***Littorophiloscia tropicalis*** **Taiti & Ferrara, 1986**
16. Telson with pointed apex; male pleopod 1 endopod with spoon-shaped apical part..... ***Uluguroscia obscura*** **Taiti & Ferrara, 2004**
– Telson with broadly rounded apex; male pleopod 1 endopod not spoon-shaped at apex..... **17**
17. Male pleopod 1 endopod with a large subapical setose area; male pleopod 2 endopod with distal part flagelliform ..... ***Uluguroscia vandammei*** **Taiti & Ferrara, 2004**
– Male pleopod 1 endopod without setose area; male pleopod 2 endopod with distal part thickset, apically pointed..... ***Uluguroscia pohli*** **Taiti & Ferrara, 2004**
18. Animals unable to roll up into a ball..... **19**
– Animals able to roll up into a ball..... **32**
19. Pleopod exopods with no respiratory structures..... **20**
– Pleopod exopods with uncovered or covered lungs..... **22**
20. Body pigmented; eyes well developed ..... ***Dumetoniscus graniticus*** **Taiti & Checcucci, gen. n., sp. n.**
– Body colourless; eyes absent..... **21**
21. Cephalon with dorsal ribs; pleonites 1–6 with 10 longitudinal ribs; pleonites 3–5 smooth..... ***Platyarthrus schoblii*** **Budde-Lund, 1885**
– Cephalon with two large bosses; pleonites 1–6 with eight longitudinal ribs; pleonites 3–5 with two tubercles ..... ***Platyarthrus alticolus*** **Taiti & Checcucci, sp. n.**
22. Pleopod 1–5 or 1 and 3–5 exopods with uncovered lungs..... **23**
– Pleopod 1–5 or 3–5 exopods with monospiracular covered lungs..... **28**
23. Cephalon with distinct frontal line bent down in the middle; male pereiopods with no brushes of setae on carpus and merus; pleopod 2 exopod without lung..... **24**
– Cephalon with no distinct frontal line; male pereiopods 1–3 with brushes of setae on carpus and merus; pleopod 2 exopod with lung..... **25**
24. Male pleopod 1 endopod obliquely truncate at apex and bearing a tuft of long setae..... ***Tamarida setigera*** **Taiti & Ferrara, 2004**
– Male pleopod 1 endopod with triangular apical part, with some short setae..... ***Tamarida differens*** **Taiti & Ferrara, 2004**
25. Pereionites with glandular fields on lateral margins; male pereiopod 7 with no peculiar specializations..... **26**
– Pereionites with no visible glandular fields; male pereiopod 7 ischium with concave sternal margin and a setose depression on rostral surface..... ***Niambia septentrionalis*** **Taiti & Ferrara, 2004**
26. Male pleopod 1 exopod with a triangular apical part..... ***Panchaia fusca*** **Taiti & Ferrara, 2004**

– Male pleopod 1 exopod with a broadly rounded apical part **27**

27. Male pleopod 1 exopod with some short setae on distal margin; male pleopod 2 endopod subapically swollen and twisted ..... ***Panchaia marmorata*** **Taiti & Ferrara, 2004**

– Male pleopod 1 exopod with no setae on distal margin; male pleopod 2 endopod flagelliform ..... ***Panchaia striata*** **Taiti & Ferrara, 2004**

28. Uropodal protopod flattened dorso-ventrally; male telson with long and narrow distal part, much longer than in female; male uropodal protopod with protruding pointed medial angle..... ***Xeroniscus angusticauda*** Ferrara & Taiti, 1990

– Uropodal protopod cylindrical; telson and uropodal protopods with no sexual dimorphism **29**

29. All pleopodal exopods with lungs..... **30**

– Only pleopod 3–5 exopods with lungs **31**

20. Cephalon with frontal line... ***Agnara*** cf. ***madagascariensis*** **(Budde-Lund, 1885)**

– Cephalon with no frontal line..... ***Socotroniscus sacciformis*** **Ferrara & Taiti, 1996**

31. Cephalon with frontal line V-shaped in the middle; telson reaching posterior margin of uropodal protopod; male pereiopod 7 ischium with no distinct specializations; male pleopod 1 exopod with no setae on margin..... ***Pseudoagnara wraniki*** **Taiti & Ferrara, 2004**

– Cephalon without frontal line; telson not reaching posterior margin of uropodal protopod; male pereiopod 7 ischium with setose area on rostral surface; male pleopod 1 exopod with some short setae along margin ..... ***Pseudoagnara abdalkurii*** **Taiti & Ferrara, 2004**

32. Pereionite 1 with postero-lateral corner entire..... ***Periscyphis vittatus*** **Omer-Cooper, 1926**

– Pereionite 1 with postero-lateral corner notched **33**

33. Pereionite 1 without sulcus arcuatus on dorsal surface near lateral margin .... **Armadillidae gen. sp.**

– Pereionite 1 with sulcus arcuatus..... **34**

34. Only pleopod 2 exopod with covered lungs **35**

– All pleopodal exopods with covered lungs..... **36**

35. Profrons and lateral margin of pereionite 1 deeply grooved ..... ***Somalodillo sulcatus*** **Taiti & Ferrara, 2004**

– Profrons and lateral margin of pereionite 1 not grooved..... ***Somalodillo paeninsulae*** **Ferrara & Taiti, 1986**

36. Body margined by long setae; telson with distal part shorter than basal; pleopodal exopods with monospiracular lungs..... **37**

– Body not margined by long setae; telson with distal part longer than basal; pleopodal exopods with polyspiracular lungs **38**

37. Uropodal protopod with a long process on which endopod is inserted; male pereiopod 7 ischium distally with a triangular process..... ***Somalodilloides laticauda*** **Taiti & Ferrara, 2004**

– Uropodal protopod without long process on which endopod is inserted; male pereiopod 7 ischium without distal process ..... ***Somalodilloides pilosus*** **Taiti & Ferrara, 2004**

38. Telson with triangular distal part, rounded apex **39**

– Telson with rectangular or trapezoidal distal part, truncate apex **40**

39. Back with scattered scale-setae; male pereiopod 7 ischium distally with a triangular process ..... ***Dioscoridillo melanoleucos*** **Ferrara & Taiti, 1996**

– Back thickly covered by scale-setae; male pereiopod 7 ischium without distal process ..... ***Dioscoridillo pubescens*** **Taiti & Ferrara, 2004**

40. Cephalon with a distinct depression along posterior margin; telson with distal part rectangular ..... ***Dioscoridillo cavicolus*** **Taiti & Ferrara, 2004**

– Cephalon without depression along posterior margin; telson with distal part trapezoidal ..... ***Dioscoridillo montanus*** **Taiti & Ferrara, 2004**

Family Ligiidae

Genus *Ligia* Fabricius, 1798

Type-species: *Oniscus oceanicus* Linné, 1767 by subsequent designation.

Ligia dioscorides Taiti & Ferrara, 2004

Ligia dioscorides Taiti & Ferrara, 2004: 217, figs 1–4, pl. 2.

Material examined. Socotra: 2 ♂♂, 8 ♀♀, Qaryah, 12°38'05.6"N 54°12'35.9"E, along wadi, near bridge, 14.I.2003, leg. S. Taiti & A. K. Nasher, MZUF-9197; 10 ♀♀, same data, NHCY (MZUF); 2 ♂♂, 4 ♀♀, Ras Momi, wadi Erher, 12°33'02.7"N 54°27'35.7"E, 16.I.2003, leg. S. Taiti, MZUF-9198; 1 ♂, 5 ♀♀, 2 juvs, same data, NHCY (MZUF); 1 ♂, 3 ♀♀, Qalansiya Lagoon, Detwah Protected Area, 12°41'55.4"N 53°29'58.1"E, 20.I.2003, leg. S. Taiti, MZUF-9195; 1 ♂, 2 ♀♀, between Didum and Cabho, 12°34'42"N 54°24'20"E, 16.I.2003, leg. S. Taiti & A. K. Nasher, MZUF-9196; 2 ♀♀, same data, NHCY (MZUF); 1 ♂, 3 ♀♀, 4 juvs, Erisseyl, 12°32'18.3"N 54°30'58.1"E, under seaweed on rocks, 17.I.2003, leg. S. Taiti, MZUF-9194.

Distribution. Littoral species endemic to the Socotra Archipelago. It has been recorded from Socotra, Samha and Darsa islands.

Family Tylidae

Genus *Tylos* Audouin, 1826

Type-species: *Tylos latreillii* Audouin, 1826 by monotypy.

Tylos exiguus Stebbing, 1910

Tylos exiguus; Taiti & Ferrara, 2004: 223, figs 5–7, pl. 3.

Material examined. Socotra: 1 ♀, Erisseyl, 12°32'18.3"N 54°30'58.1"E, under seaweed on rocks, 17.I.2003, leg. S. Taiti, MZUF-9199.

Distribution. Coasts of Red Sea and Socotra Island.

Family Olibrinidae

Genus *Olibrinus* Budde-Lund, 1913

Type-species: *Trichoniscus antennatus* Budde-Lund, 1902 by subsequent designation of Taiti et al. (1992).

Olibrinus antennatus (Budde-Lund, 1902)

Olibrinus antennatus; Taiti & Ferrara, 2004: 223, pl. 4

Material examined. Socotra: 1 ♂, 1 ♀, Qalansiya Lagoon, Detwah Protected Area, 12°41'55.4"N 53°29'58.1"E, 20.I.2003, leg. S. Taiti, MZUF-9200.

Distribution. Coasts of Indian and Pacific oceans, and Brazil (?).

Genus *Paradoniscus* Taiti & Ferrara, 2004

Type-species: *Paradoniscus aquaticus* Taiti & Ferrara, 2004 by original designation.

Paradoniscus degeesti Taiti & Ferrara, 2004

Paradoniscus degeesti Taiti & Ferrara, 2004: 234, figs 13–15, pl. 5

Material examined. Socotra: 2 ♂♂, 1 ♀, Hoq Cave, 12°35'07.9"N 54°21'06.1"E, ca. 500 m inside, in pools, 14.I.2003, leg. S. Taiti and A. K. Nasher, MZUF-9201; 1 ♂, 2 ♀♀, same data, NHCY (MZUF).

Distribution. Aquatic species endemic to Socotra. It has been recorded only from Hoq Cave.

Family Halophilosciidae

Genus *Littorophiloscia* Hatch, 1947

Type-species: *Philoscia richardsonae* Holmes & Gay, 1909 by original designation and monotypy.

Littorophiloscia tropicalis Taiti & Ferrara, 1986

Littorophiloscia tropicalis Taiti & Ferrara, 2004: 234.

Material examined. Socotra: 3 ♀♀, Qalansiya Lagoon, Detwah Protected Area, 12°41'55.4"N 53°29'58.1"E, 20.I.2003, leg. S. Taiti, MZUF-9202; 5 ♂♂, 8 ♀♀,

4 juvs, Ras Momi, Wadi Erher, 12°33'02.7"N 54°27'35.7"E, 16.I.2003, leg. S. Taiti, MZUF-9203; 5 ♂♂, 8 ♀♀, 4 juvs, same data, NHCY (MZUF); 1 ♂, 3 ♀♀, 2 juvs, Qaryah, 12°38'05.6"N 54°12'35.9"E, along wadi near bridge, 14.I.2003, leg. S. Taiti & A. K. Nasher, MZUF-9204; many ♂♂ and ♀♀, Erisseyl, 12°32'18.3"N 54°30'58.1"E, under seaweed on rocks, 17.I.2003, leg. S. Taiti, MZUF-9205; 5 ♂♂, 5 ♀♀, same data, NHCY (MZUF).

Distribution. Littoral species with a circumtropical distribution.

Family Philosciidae

Genus *Uluguroscia* Taiti & Ferrara, 1980

Type-species: *Uluguroscia montana* Taiti & Ferrara, 1980 by original designation and monotypy.

Uluguroscia obscura Taiti & Ferrara, 2004

Uluguroscia obscura Taiti & Ferrara, 2004: 238, figs 16–18.

Material examined. Socotra: many ♂♂ and ♀♀, Hagghier Mts, Adho Dimelho, 12°34'19.1"N 54°02'52.9"E, 1000 m, 12.I.2003, leg. S. Taiti, MZUF-9206; 5 ♂♂, 5 ♀♀, same data, NHCY (MZUF); 6 ♂♂, 5 ♀♀, Hagghier Mts, Adho Dimelho, 12°34'19.9"N 54°02'49.4"E, 980 m, under stones in meadow, 22.I.2003, leg. S. Taiti, MZUF-9208; 5 ♂♂, 5 ♀♀, same data, NHCY (MZUF); 9 ♂♂, 6 ♀♀, along path from Wadi Daneghan to Adho Dimelho, 12°35'22.4"N 54°02'58.3"E, 550 m, under stones near spring, 22.I.2003, leg. S. Taiti, MZUF-9207; 4 ♂♂, 4 ♀♀, 1 juv., Hagghier Mts, near Adho Dimelho, 12°34'20.9"N 54°02'29.2"E, 1100 m, 22.I.2003, leg. S. Taiti, K. Van Damme and P. De Geest, MZUF-9209.

Distribution. Species endemic to Socotra Island where it occurs above 900 m elevation.

Uluguroscia pohli Taiti & Ferrara, 2004

Uluguroscia pohli Taiti & Ferrara, 2004: 238, figs 19–20, pl. 7

Material examined. Socotra: many ♂♂ and ♀♀, Qeysoh, 12°39'32"N 53°28'12"E, in palm grove, 20.I.2003, leg. S. Taiti, MZUF-9210; 5 ♂♂, 5 ♀♀, same data, NHCY (MZUF); many ♂♂ and ♀♀, same locality, under palm logs in meadow, 20.I.2003, leg. S. Taiti, MZUF-9218; 5 ♂♂, 5 ♀♀, same data, NHCY (MZUF); 1 ♂, 6 ♀♀, Wadi Ayhaft, 12°36'14.7"N 53°59'31.1"E, ca. 240 m, granite, under stones near wadi, 21.I.2003, leg. S. Taiti, MZUF-9211; 5 ♂♂, 12 ♀♀ , 4 juvs, Wadi Ayhaft, 12°36'38"N 53°58'42.9"E, ca. 170 m, limestone, under stones, 21.I.2003, leg. S. Taiti, MZUF-9216; many ♂♂ and ♀♀, Wadi Daneghan, 12°35'50.8"N 54°03'27.2"E, wet cliff, *Ficus* litter and under stones, 300 m, 17.I.2003, leg. S. Taiti, MZUF-9212; 5 ♂♂, 5 ♀♀, same data, NHCY (MZUF); 2 ♂♂, 1 ♀, along path from Wadi Daneghan to Adho Dimelho, 12°35'22.4"N 54°02'58.3"E, 550 m, under stones near spring,

22.I.2003, leg. S. Taiti, MZUF-9213; 1 ♂, 4 ♀♀, Wadi Daneghan, 12°36'23.6"N 54°03'31.8"E, 170 m, 17.I.2003, leg. S. Taiti, MZUF-9214; many ♂♂ and ♀♀, Hoq Cave, 12°35'07.9"N 54°21'06.1"E, in humus outside entrance, 14.I.2003, leg. S. Taiti, MZUF-9215; 5 ♂♂, 5 ♀♀, same data, NHCY (MZUF); 10 ♂♂, 4 ♀♀, 12 juvs, S of Riqeleh, 12°35'42.4"N 54°18'52.8"E, in palm grove along Wadi Kazekas, 50 m, 17.I.2003, leg. S. Taiti, MZUF-9217; 5 ♂♂, 5 ♀♀, same data, NHCY (MZUF).

Distribution. Species endemic to Socotra Island where it occurs below 700 m elevation.

Genus *Serendibia* Manicastri & Taiti, 1987

Type-species: *Serendibia denticulata* Manicastri & Taiti, 1987 by original designation and monotypy.

Serendibia vagans Taiti & Ferrara, 2004

Serendibia vagans Taiti & Ferrara, 2004: 248, figs 24–26.

Material examined. Socotra: many ♂♂ and ♀♀, S of Riqeleh, 12°35'42.4"N 54°18'52.8"E, in palm grove along Wadi Kazekas, 50 m, 17.I.2003, leg. S. Taiti, MZUF-9219; 5 ♂♂, 5 ♀♀, same data, NHCY (MZUF); 2 ♀♀, Wadi Ayhaft, 12°36'14.7"N 53°59'31.1"E, ca. 240 m, granite, under stones near wadi, 21.I.2003, leg. S. Taiti, MZUF-9220; 2 ♂♂, 1 ♀, 1 juv., Wadi Daneghan, 12°35'50.8"N 54°03'27.2"E, wet cliff, *Ficus* litter and under stones, 300 m, 17.I.2003, leg. S. Taiti, MZUF-9221; many ♂♂ and ♀♀, Hoq Cave, 12°35'07.9"N 54°21'06.1"E, ca. 30 m inside, 14.I.2003, leg. S. Taiti and A. K. Nasher, MZUF-9222; 5 ♂♂, 5 ♀♀, same data, NHCY (MZUF).

Distribution. Species endemic to Socotra Island.

Serendibia filiformis Taiti & Ferrara, 2004

Serendibia filiformis Taiti & Ferrara, 2004: 252, figs 27, 28, pl. 8.

Material examined. Socotra: many ♂♂ and ♀♀, Hoq cave, 12°35'07.9"N 54°21'06.1"E, ca. 30 m inside, 14.I.2003, leg. S. Taiti and A. K. Nasher, MZUF-9223; 5 ♂♂, 5 ♀♀, same data, NHCY (MZUF); many ♂♂ and ♀♀, Momi, Kazekas Cave, 12°33'16.8"N 54°18'36.3"E, ca. 500 m, 15.I.2003, leg. S. Taiti and A. K. Nasher, MZUF-9224; 5 ♂♂, 5 ♀♀, same data, NHCY (MZUF).

Distribution. Species endemic to Socotra Island where it seems to occur only in caves.

Serendibia cavernicola Taiti & Checcucci, sp. n.

urn:lsid:zoobank.org:act:58F1F669-4AE2-41F2-8C3C-A53B88A8BB6F

Material examined. Socotra: 1 ♂ Holotype, Momi, Kazekas Cave, 12°33'16.8"N 54°18'36.3"E, ca. 500 m, 15.I.2003, leg. S. Taiti & A. K. Nasher, MZUF-9225; 1

♂, 6 ♀♀ Paratypes, same data, MZUF-9225; 6 ♀♀ Paratypes, same data, NHCY (MZUF).

Additional material. 1 ♂, 1/2 spec., Mega 1 Cave, 12°37'37.0"N 53°30'44.2"E, 04.I.2004, leg. E. Claes, MZUF-9226.

Diagnosis. A species of *Serendibia* characterized by the absence of eyes, elongated body (about 3 times longer than wide), telson with widely rounded apex; antennule with elongated aesthetascs, antenna with fifth article of peduncle not swollen, male pleopod 1 exopod with large triangular posterior point, and endopod with apical part pointed and bent outwards.

Description. Maximum length: ♂, 2.9 mm; ♀, 4.0 mm. Body elongated (about 3 times longer than wide) and colourless (Fig. 1A). Back with scattered long scale-setae (Fig. 1B); each pereionite with one nodulus lateralis per side (Fig. 1C), nodulus lateralis on pereionite 4 more distant from lateral margin than those on the other pereionites, b/c and d/c co-ordinates as in Fig. 1D; no visible gland pores. Cephalon (Fig. 1E,F) about 1.5 times wider than long, with very thin suprantennal line slightly bent downwards in the middle; eyes absent. Pleon narrower than pereion; pleonites without posterior points visible in dorsal view. Telson (Fig. 1G) about twice as wide as long, distal part with straight sides and very broadly rounded apex. Antennule (Fig. 1H) with third article equipped with 2 apical and 3–4 subapical long aesthetascs. Antenna (Fig. 1I) with fifth article of peduncle not swollen; first and third flagellar articles subequal in length, second distinctly shorter; second and third flagellar articles with a row of five and seven aesthetascs, respectively. Buccal pieces as in all the other species of the genus, i.e. mandible with molar penicil simple, maxillule with outer branch bearing 7 simple teeth and inner branch with two short and thickset penicils, maxilliped with endite equipped with a big apical penicil and a long seta on outer corner. Pereiopods with no dactylar seta and with ungual seta flagelliform. Uropod with protopod and exopod grooved on outer margin; insertion of endopod slightly proximal to that of exopod.

Male. Pereiopod 1 (Fig. 2A) with carpus slightly enlarged. Pereiopod 7 (Fig. 2B) without particular sexual specializations. Pleopod 1 (Fig. 2C) exopod with a distinct triangular posterior point bent outwards; endopod with apical part pointed and bent outwards. Pleopod 2 (Fig. 2D) exopod slightly longer than wide with rounded apex bearing a trifid seta; endopod distinctly longer than exopod. Pleopod 3–5 exopod as in Fig. 2E-G.

Etymology. Latin *cavernicolus* = cave-dwelling. The name refers to the locality (Kazekas Cave) where the type specimens were collected.

Remarks. Until now, the genus *Serendibia* included the type species *Serendibia denticulata* Manicastri & Taiti, 1987, from Sri Lanka, and three species from the Socotra Archipelago, i.e. *S. vagans* and *S. filiformis* from Socotra Island, and *S. samhaensis* from Samha Island. The new species from Kazekas Cave described here belongs to the group of *Serendibia* from the Socotra Archipelago, characterized by the absence of eyes, the colourless body and shape of the endite of maxilliped which has a long seta on the outer corner. The specimens from Mega 1 Cave show some small

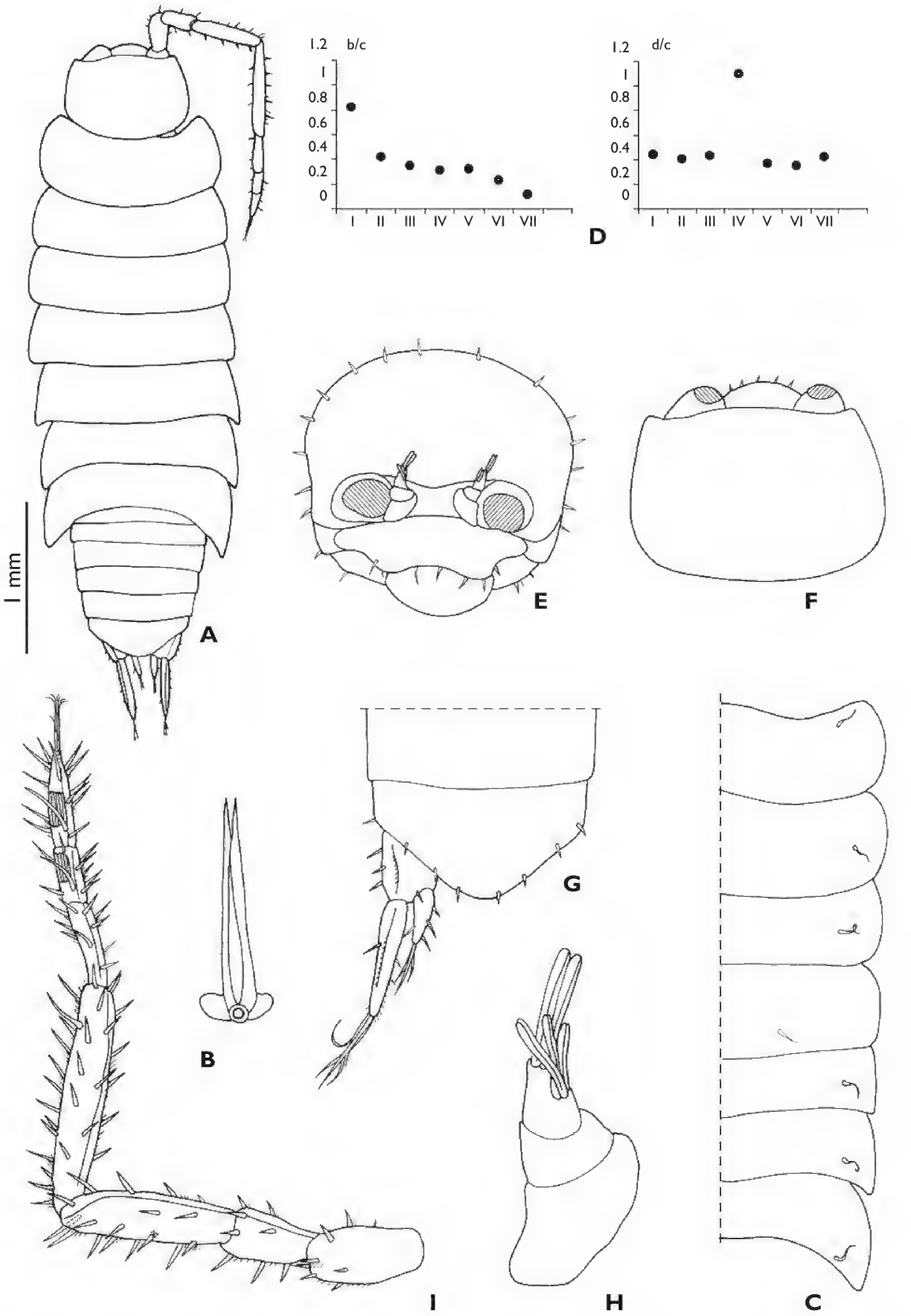

Figure 1. *Serendibia cavernicola* sp. n. ♀ from Kazekas Cave: **A** Adult specimen, dorsal view **B** Dorsal scale-seta **C** Right side of pereion showing disposition of noduli laterales **D** Co-ordinates of noduli laterales **E** Cephalon, frontal view **F** Cephalon, dorsal view **G** Pleonite 5, telson and left uropod **H** Antennule. ♂ from Kazekas Cave **I** Antenna.

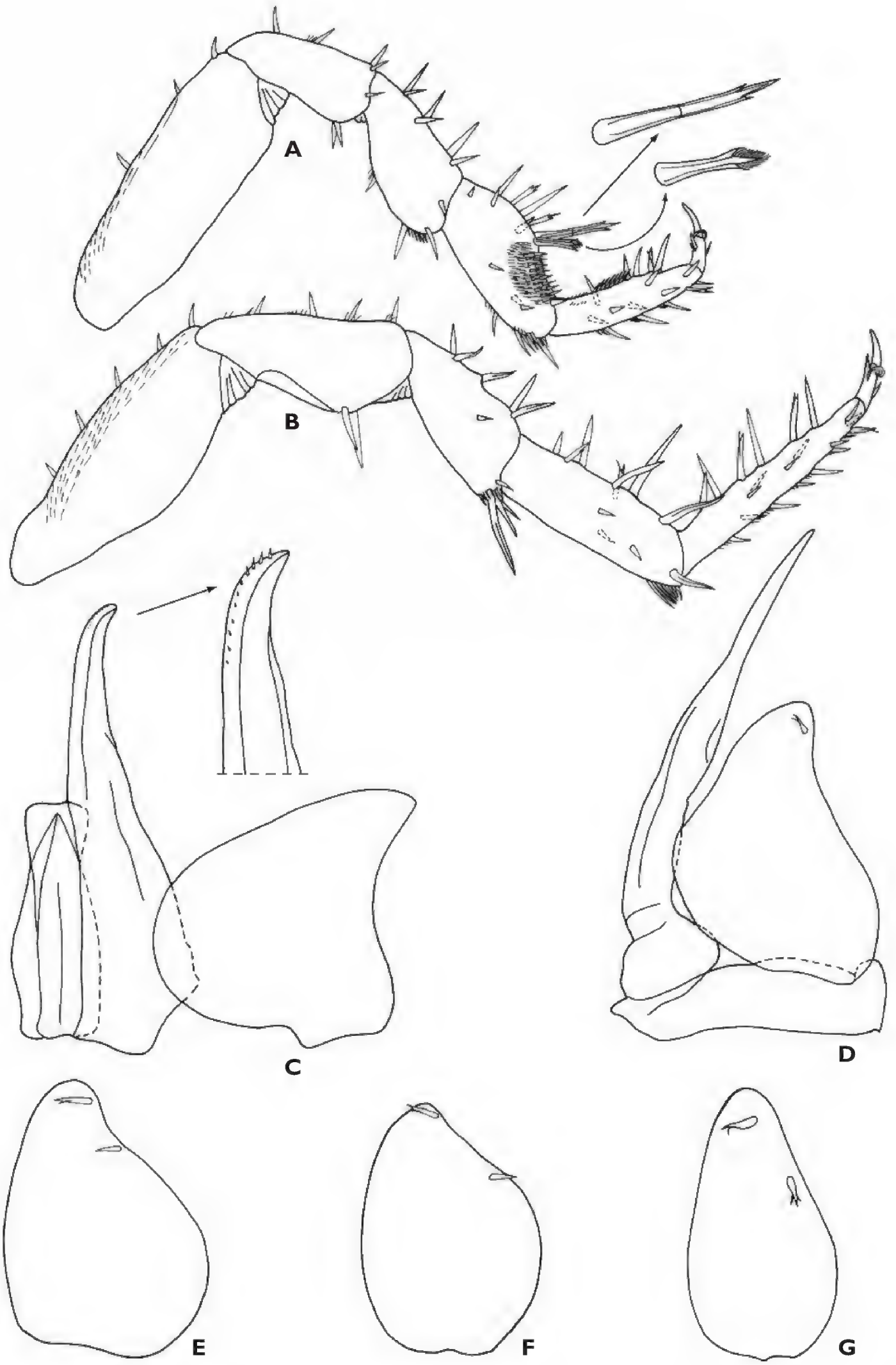

Figure 2. *Serendibia cavernicola* sp. n. ♂ from Kazekas Cave: **A** Pereiopod 1 **B** Pereiopod 7 **C** Genital papilla and pleopod 1 **D** Pleopod 2 **E** Pleopod 3 exopod **F** Pleopod 4 exopod **G** Pleopod 5 exopod.

differences from the population of the type-locality (Kazekas Cave) in having shorter and thicker aesthetascs of the antennule (Fig. 3A), the male pereiopod 1 carpus more enlarged (Fig. 3B), the male pleopod 1 endopod with longer and thinner apical part (Fig. 3C), and the male pleopod 2 endopod shorter (Fig. 3D) when compared with the exopod. With only one male examined from Mega 1 Cave, it is difficult to judge the importance of these differences, but considering the very similar shape of the male pleopod 1 exopod (compare Fig. 2C and 3C), we prefer to include also these specimens in *S. cavernicola.*

The new species is readily distinguishable from all the other Socotran species in the genus by having the body proportionally wider (only 3 times instead of > 4.5 longer than wide), antenna with the fifth article of the peduncle not swollen and more numerous number of aesthetascs on the flagellum. It also differs from *S. vagans* in the suprantennal line bent down instead of straight, the male pereiopod 1 carpus enlarged, and longer posterior point of the male pleopod 1 exopod; from *S. filiformis* in thinner and longer aesthetascs of the antennule, the male pleopod 1 exopod with triangular instead of rounded posterior point, and the male pleopod 2 endopod longer in comparison with the exopod. For the enlarged male pereiopod 1 carpus and the similar shape of the male pleopod 1 exopod, *S. cavernicola* seems to show closest affinities with *S. samhaensis*, from which it is distinguished by the distal part of male pleopod 1 endopod which is not enlarged and not equipped with flattened setae.

Family Bathytropidae

Genus *Dumetoniscus* Taiti & Checcucci, gen. n.
urn:lsid:zoobank.org:act:6215D3F2-93DE-4086-A955-C49EC486387A
Type-species: *Dumetoniscus graniticus* sp. n.

Diagnosis. Animals unable to roll up into a ball, runner type. Back with shallow tubercles and small T-shaped scale-setae; no glandular fields at lateral margins of pereional segments; one series of noduli laterales per side, nuduli on pereionites 4 and 7 clearly more distant from the lateral margins of the segments. Cephalon with frontal lobes well developed, lateral lobes obliquely directed downwards; suprantennal and frontal lines present. Posterior margin of pereionite 1 straight. Pleon slightly narrower than pereion; pleonites 3–5 with well developed posterior points. Telson triangular, reaching distal margin of uropodal protopod. Antennule of three articles with a tuft of aesthetascs at apex. Antenna with flagellum of two articles, the first longer than the second. Mandible with molar penicil dichotomized, 1+1 free penicils on the right mandible and 2+1 on the left. Maxillule with outer branch equipped with 4+6 (5 cleft) teeth; inner branch with 2 penicils and a posterior point. Maxilliped with endite bearing 3 large triangular spines at apex and no penicil. Pereiopods with flagelliform dactylar and ungual seta on dactylus; distal margins of merus and carpus with a row of short scales. All pleopodal exopods with no respiratory struc-

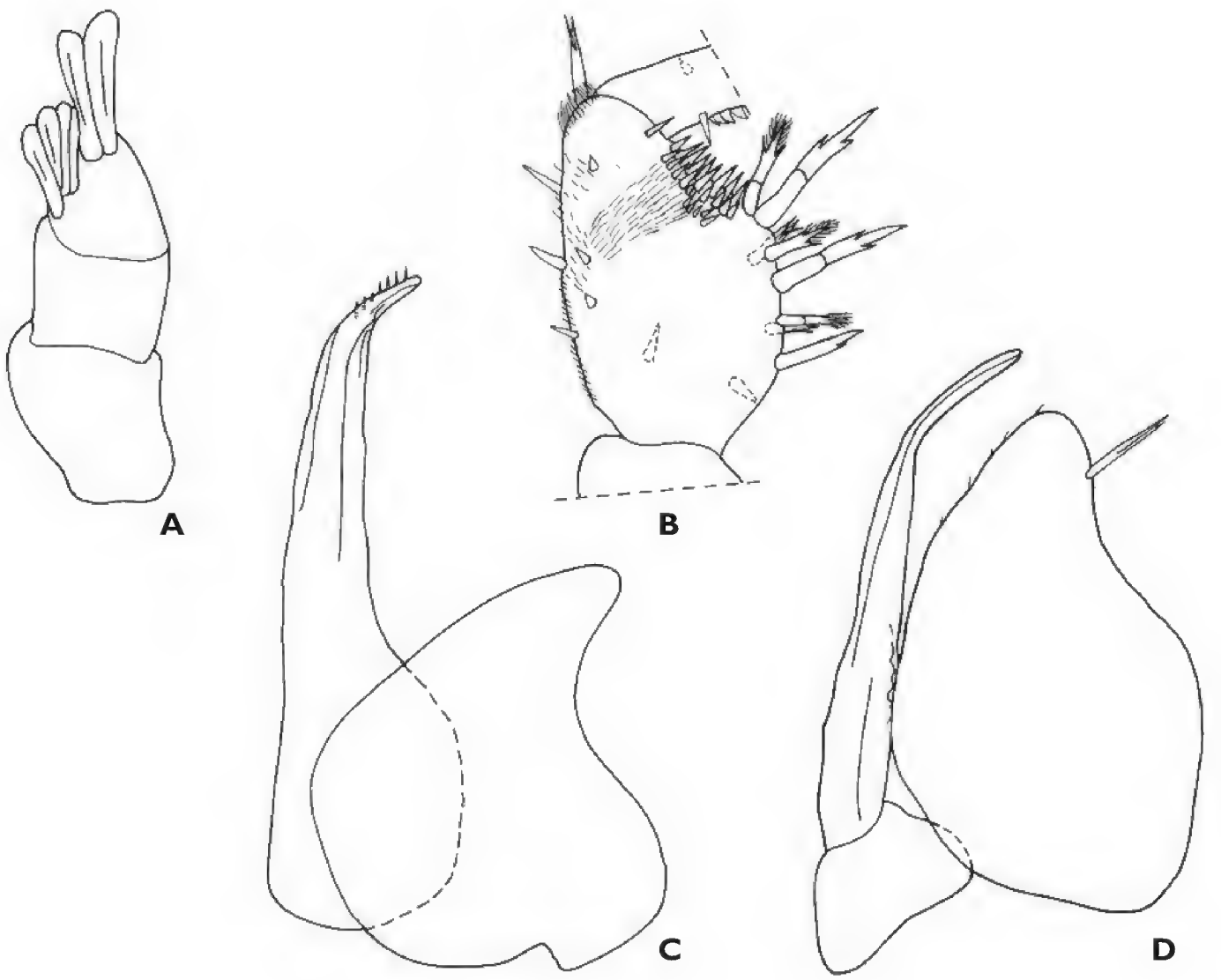

Figure 3. *Serendibia cavernicola* sp. n. ♂ from Mega 1 Cave **A** Antennule **B** Pereiopod 1 carpus **C** Pleopod 1 **D** Pleopod 2.

tures. Uropodal protopod with a triangular incision on lateral margin; endopod inserted proximally to exopod.

Etymology. Latin *Dumetum* = bush + *Oniscus*. Gender masculine. The name refers to the habitat where the type species was collected.

Remarks. According to the "World catalog of terrestrial isopods" by Schmalfuss (2003), the family Bathytropidae currently includes seven genera: *Bathytropa* Budde-Lund, 1885, *Australoniscus* Vandel, 1973a, *Neotroponiscus* Arcangeli, 1936, *Papuasoniscus* Vandel, 1973b, *Laninoniscus* Reca, 1973, *Monitus* Lewis, 1998, and *Cubanoscia* Vandel, 1981. *Cubanoscia* is unavailable since it was described on three species without selection of the type-species (see Schmidt and Leistikow 2004: 26). *Australoniscus* is a junior synonym of *Nagurus* Holthuis, 1949 (see remarks in Schmidt and Leistikow 2004: 13), but the species "*Australoniscus*" *springetti* Vandel, 1973c from Western Australia is certainly not in *Nagurus*. A re-examination of the type- or topotypic specimens is necessary for a correct generic abscription.

The family includes all the genera of Crinocheta which are unable to conglobation, have T- or Y-shaped dorsal scale-setae, a two-jointed antennal flagellum (except *Monitus* with three flagellar articles), and no visible respiratory structures on the pleopods

(except *Bathytropa wahrmani* Strouhal, 1968 which has *Trachelipus*-type uncoverd pleopodal lungs). As pointed out by Schmidt (2003) the monophyly of the family is questionable and in need of an accurate revision. Schmidt (2003) redefined the family only on the basis of one species in the type-genus *Bathytropa*, without taking into consideration all the other genera included until now.

The specimens from Adho Dimelho in the Hagghier Mts (see below) that we examined do not fit in any of the genera included in the family and are described in the new genus *Dumetoniscus*. It is distinguishable from *Bathytropa* in the position of the noduli laterales, cephalon with medial frontal lobe triangular instead of quadrangular, presence of suprantennal line, pereion and pleon epimera less developed; from *Neoptroponiscus* in the medial frontal lobe less developed, triangular instead of quadrangular, the presence of a suprantennal line, the less developed pleon epimera and the triangular telson with straight sides; from *Monitus* in the two-jointed antennal flagellum, the less developed frontal lobes on cephalon and epimera of pereion and pleon, and the triangular telson; from *Papuasoniscus* in the presence of a suprantennal line, different disposition of the noduli laterales and the triangular telson. The new genus shows closest similarity with *Laninoniscus* from which it differs in the tuberculated instead of smooth dorsum, the more developed frontal lobes, and the presence of a distinct frontal line.

***Dumetoniscus graniticus* Taiti & Checcucci, sp. n.**
urn:lsid:zoobank.org:act:CB8FBB40-DB33-4B0E-9B9B-6B18A17206FA

Material examined. Socotra: 1 ♂ Holotype, Hagghier Mts, Adho Dimelho, 12°34'19.1"N 54°02'52.9"E, 1000 m, sifted leaf litter in bush, 22.I.2003, leg. S. Taiti, MZUF-9280; 5 ♂♂, 3 ♀♀, 1 juv. Paratypes, same data, MZUF-9280; 2 ♂♂, 5 ♀♀, Paratypes, same data, NHCY (MZUF).

Diagnosis. A species of *Dumetoniscus* characterized by enlarged body shape (ca. twice as long as wide), cephalon with a triangular frontal medial lobe, triangular telson with straight sides, male pleopod 1 exopod triangular and endopod with apical part pointed and slightly bent outwards.

Description. Maximum length: ♂ 3.0 mm; ♀, 4.8 mm. Body enlarged (ca. 2 times longer than wide) (Fig. 4A). Colour brown with yellow spots; pereionites 5–7 with postero-lateral corners pale (reddish in vivo?); antennae, pleopods and uropods brown. Vertex of cephalon and dorsal side of pereion with some rounded shallow tubercles; posterior margins of pereionites 5–7 and of all pleonites granulated; dorsum with small T-shaped scale-setae (Fig. 4B); co-ordinates of noduli laterales as in Fig. 4C. Cephalon (Fig. 4D–F) with frontal lateral lobes rounded and obliquely directed downwards, medial lobe triangular slightly protruding frontward compared with the lateral lobes; eyes very large, globose, with up to 16 ommatidia in the larger specimens. Pereionites with posterior margins straight. Pleonites 3–5 with falciform posterior points. Telson (Fig. 4G) triangular with straight sides, slightly surpassing posterior margin of uropo-

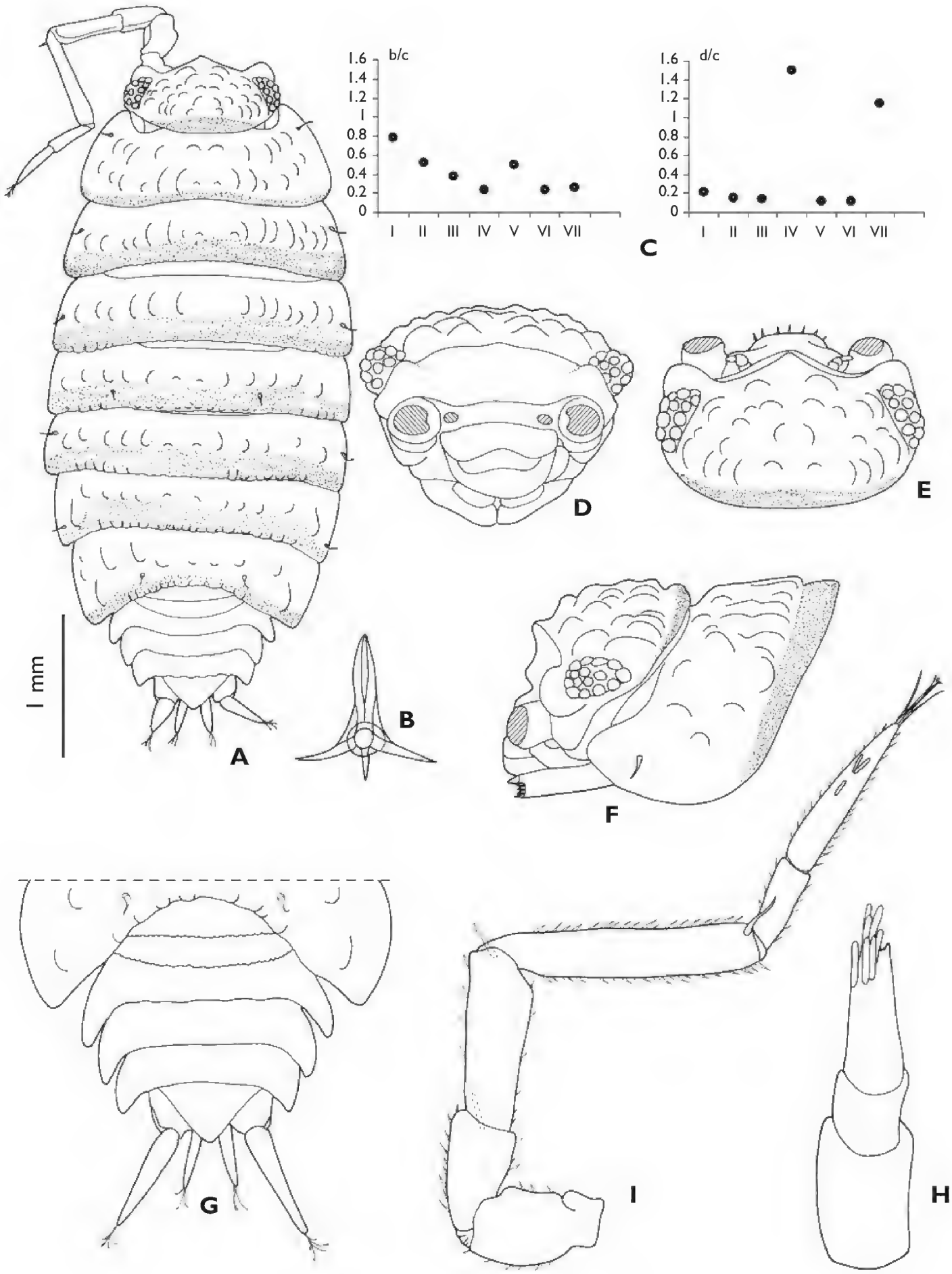

Figure 4. *Dumetoniscus graniticus* gen. n., sp. n. ♀ from Adho Dimelho: **A** Adult specimen, dorsal view **B** Dorsal scale-seta **C** Co-ordinates of noduli laterales **D** Cephalon, frontal view **E** Cephalon, dorsal view **F** Cephalon and pereionite 1, lateral view **G** Pereionite 7, pleon, telson and uropods **H** Antennule **I** Antenna.

dal protopods. Antennule (Fig. 4H) with third article about three times longer than second with a tuft of about seven aesthetascs and a small point at the apex. Antenna (Fig. 4I) with flagellum as long as fifth article of peduncle; second flagellar article ca. twice longer than first, bearing one and two aesthetascs. Mandibles (Fig. 5A,B) with molar penicil consisting of about six plumose setae. Maxillule (Fig. 5C) with inner branch bearing two elongated setose penicils and a distinct triangular posterior point. Maxilla (Fig. 5D) with outer lobe smaller than inner one, two strong setae between the two lobes. Maxilliped (Fig. 5E) and uropods (Fig. 5F) as in the generic diagnosis.

Male. Pereiopod 1 (Fig. 5G) carpus and merus with about five strong setae. Pereiopod 7 (Fig. 6A) ischium with straight sternal margin. Pleopod 1 (Fig. 6B) exopod triangular; endopod with distal part pointed and slightly bent outwards. Pleopod 2 (Fig. 6C) endopod longer than exopod. Pleopod 3–5 exopods as in Fig. 6D-F.

Etymology. Latin *graniticus* = related to granite. The name refers to the granitic Hagghier Mts where the specimens were collected.

Family Platyarthridae

Genus ***Platyarthrus*** Brandt, 1833
Type-species: *Platyarthrus hoffmannseggii* Brandt, 1833 by monotypy.

Platyarthrus schoblii Budde-Lund, 1885
Platyarthrus schoblii schoblii; Taiti & Ferrara, 2004: 258.

Material examined. Socotra: 1 ♀, Wadi Ayhaft, 12°36'38.0"N 53°58'42.9"E, ca. 170 m, limestone, under stones, 21.I.2003, leg. S. Taiti, MZUF-9228; 1 ♂, 1 ♀, Wadi Ayhaft, 12°36'14.7"N 53°59'31.1"E, ca. 240 m, granite, under stones, near wadi, 21.I.2003, leg. S. Taiti, MZUF-9229; 1 ♀, Qeysoh, 12°39'32"N 53°28'12"E, under palm logs in meadow, 20.I.2003, leg. S. Taiti, MZUF-9230; 1 ♀, Qeysoh, 12°39'32"N 53°28'12"E, in palm grove, 20.I.2003, leg. S. Taiti, MZUF-9231; 2 ♀♀, same data, NHCY (MZUF); 1 ♀, Hadibo, 12°39'N 54°01'E, under stones, 11.I.2003, leg. S. Taiti, MZUF-9232; 1 ♀, Arresh, Diehamt, 12°35'26.8"N 53°48'54.6"E, ca. 18 m, 11.I.2003, leg. S. Taiti, MZUF-9233.

Distribution. Western Mediterranean area and Socotra where it is most probably introduced with human activities.

Platyarthrus alticolus **Taiti & Checcucci, sp. n.**
urn:lsid:zoobank.org:act:038A9573-9E37-462D-B357-98445905FC21

Material examined. Socotra: 1 ♀ Holotype, Hagghier Mts, Adho Dimelho, 980 m, 12°34'19.9"N 54°02'49.4"E, 22.I.2003, under stones in meadow, leg. S. Taiti, MZUF-9227; 1 ♀ Paratype, same data, MZUF-9227.

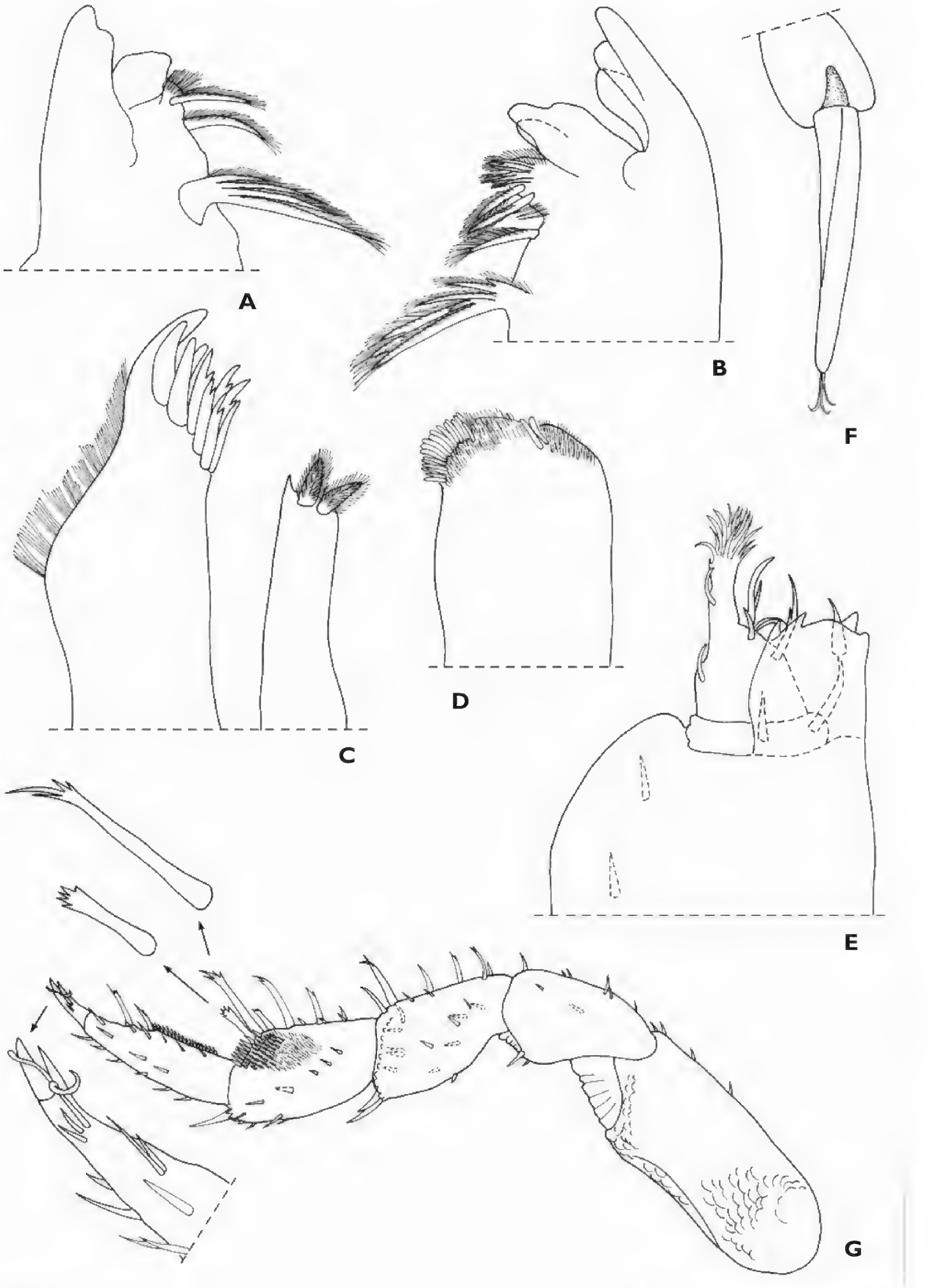

Figure 5. *Dumetoniscus graniticus* gen. n., sp. n. ♀ from Adho Dimelho: **A** Right mandible **B** Left mandible **C** Maxillule **D** Maxilla **E** Maxilliped **F** Uropod, lateral view. ♂ from Adho Dimelho **G** Pereiopod 1.

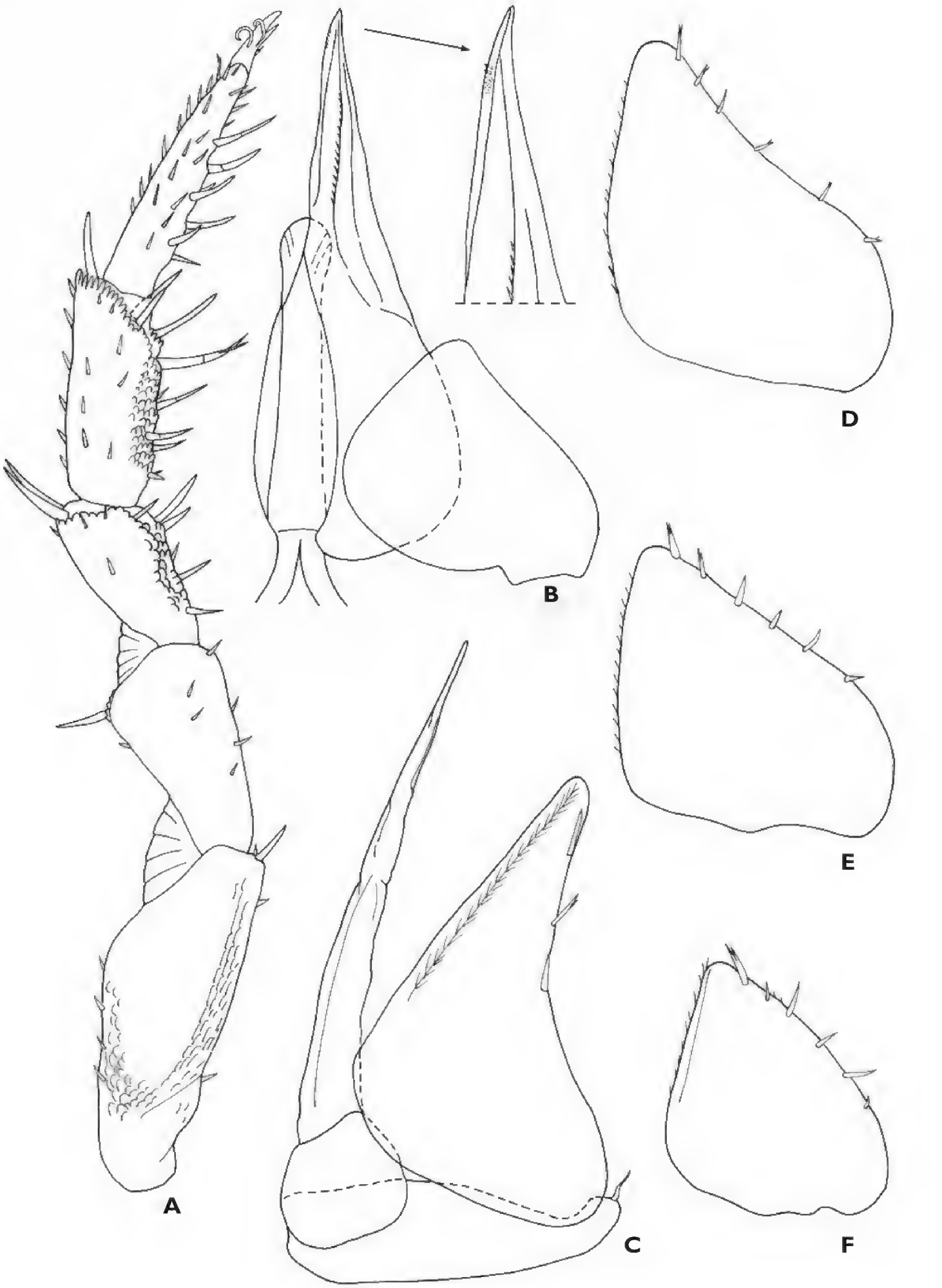

Figure 6. *Dumetoniscus graniticus* gen. n., sp. n. ♂ from Adho Dimelho: **A** Pereiopod 7 **B** Pleopod 1 **C** Pleopod 2 **D** Pleopod 3 exopod **E** Pleopod 4 exopod **F** Pleopod 5 exopod.

Diagnosis. A species of *Platyarthus* characterized by the dorsal ornamentation with two bosses on vertex and two prominent and two shallow ribs per side on pereionites 1–6 and two prominent ribs per side on pereionite 7, two paramedian ribs on pleonites 3–5, and very short telson with obtuse triangular distal part.

Description. Maximum length: 4.1 mm. Body very convex, colourless (Fig. 7A, B). Dorsal ornamentation: cephalon with two paramedian large bosses on vertex; pereionites 1–6 with two more internal prominent ribs and two more external shallow ribs per side; pereionite 7 with two prominent ribs per side; pleonites 3–5 with two paramedian ribs. Dorsum with many rounded and flattened scale-setae (Fig. 7C). Cephalon (Fig. 7D) with median lobe broadly rounded, protruding frontwards and slightly hollow dorsally; lateral lobes subquadrangular, tranversely directed frontwards; eye absent. Pereionite 1 with posterior corners right-angled, becoming progressively more acute in the following pereionites. Pleonites 3–5 with epimera quadrangular, directed backwards. Telson (Fig. 7E) very short, about three times as wide as long, with an obtuse triangular distal part, covering just a small part of uropodal protopods. Antenna (Fig. 7F) with thickset peduncular articles; second flagellar article about five times as long as first. Uropods (Fig. 7E) with thickset exopod, shorter than protopod.

Etymology. Latin *alticolus* = living at altitude. The name refers to the collecting site of the species at ca. 1000 m elevation on the Hagghier Mts.

Remarks. The genus *Platyarthrus* currently includes 28 species (Schmalfuss 2003) mainly distributed in the Mediterranean area, with a few species from the Atlantic islands and west to Tajikistan. One species, *P. acropyga* Chopra, 1924, has been described from Chilka Lake, India. In the Socotra Archipelago only the introduced species *Platyarthus schoblii* was previously recorded (Taiti and Ferrara 2004).

Even if only two female specimens were collected, *Platyarthrus alticolus* sp. n. is worth of a description because of its peculiar dorsal ornamentation and the high probability of being authocthonous on Socotra Island. It belongs to the *schoblii*-group of species, characterized by the short telson and dorsal longitudinal ribs on the pereion. For the presence of four dorsal ribs per side on the pereionites 1–6 *P. alticolus* is similar to *P. sorrentinus* Verhoeff, 1931 from southern Italy. All the other species in the group have five or six longitudinal ribs per side on pereionites 1–6. It is readily distinguishable from *P. sorrentinus* in having two prominent and two more shallow ribs per side instead of all with the same development, and in having two large bosses instead of ribs on the cephalic vertex (compare Pl. 8 fig. 43 in Verhoeff 1931 for *P. sorrentinus*). This last character distinguishes the new species also from all the other species of the *schoblii*-group.

Genus *Niambia* Budde-Lund, 1904

Type-species: *Leptotrichus squamatus* Budde-Lund, 1885 by subsequent designation of Schmalfuss and Ferrara (1978).

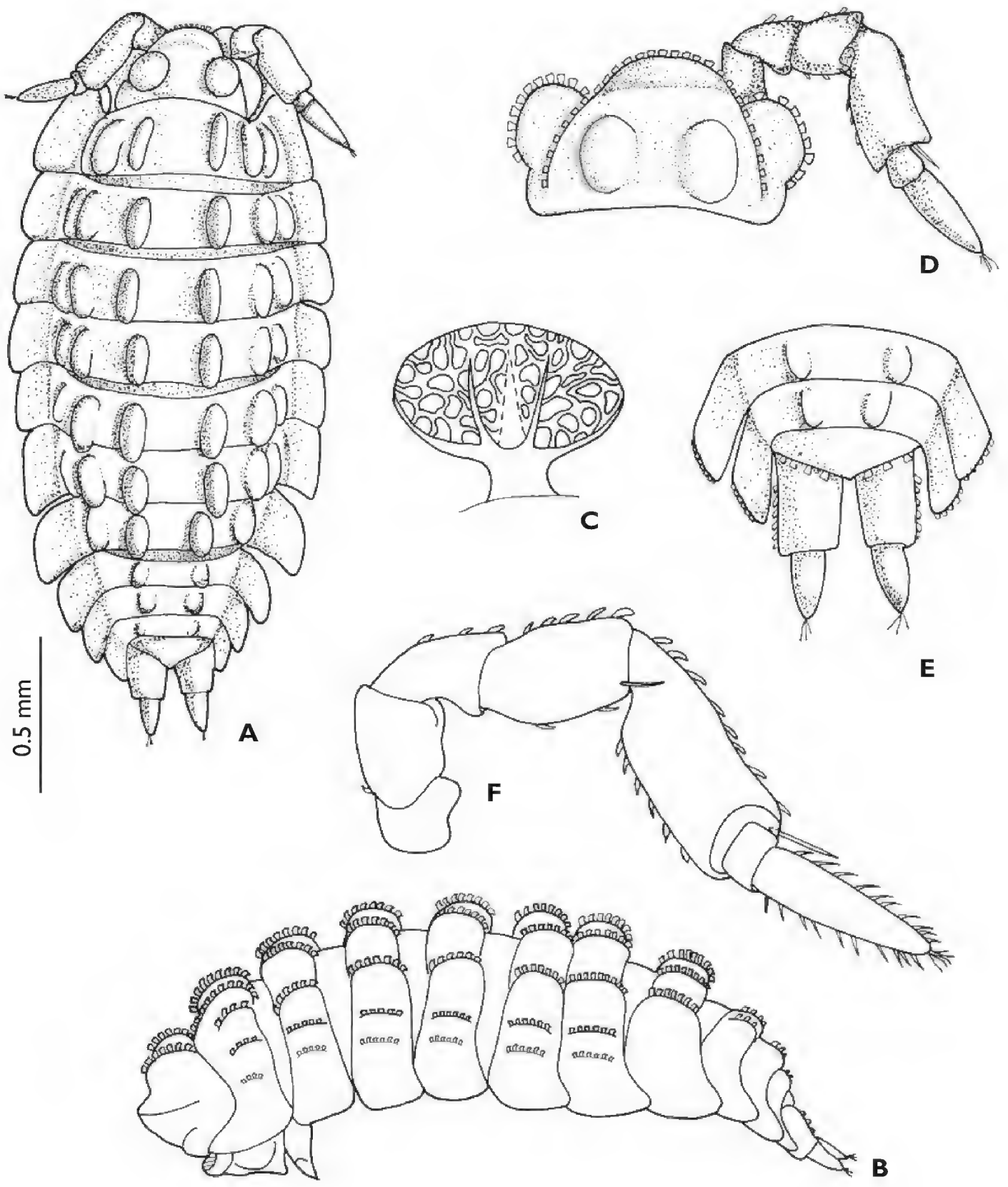

Figure 7. *Platyarthrus alticolus* sp. n. ♀ from Adho Dimelho: **A** Adult specimen, dorsal view **B** Adult specimen, lateral view **C** dorsal scale-seta **D** Cephalon, dorsal view **E** Pleonites 4 and 5, telson and uropods **F** Antenna.

Niambia septentrionalis Taiti & Ferrara, 2004

Niambia septentrionalis Taiti & Ferrara, 2004: 258, figs 31–33, pl. 10.

Material examined. Socotra: 3 ♂♂, 5 ♀♀, Qeysoh, 12°39'32"N 53°28'12"E, in palm grove, 20.I.2003, leg. S. Taiti, MZUF-9234; 2 ♂♂, 2 ♀♀, Qeysoh, 12°39'32"N 53°28'12"E, under palm logs in meadow, 20.I.2003, leg. S. Taiti, MZUF-9237; 4 ♂♂, 3 ♀♀, same

data, NHCY (MZUF); 1 ♂, 4 ♀♀, 1 juv., Ikherina, 12°29'15"N 53°33'40"E, at the bottom of a small vertical cave, 170 m, 12.I.2003, leg. P. De Geest and J. Beyens, MZUF-9235; 1 ♂, 1 ♀, Wadi Ayhaft, 12°36'38"N 53°58'42.9"E, ca. 170 m, limestone, under stones, 21.I.2003, leg. S. Taiti, MZUF-9236; 1 ♂, 1 ♀, same data, NHCY (MZUF); 1 ♂, 2 ♀♀, Hoq Cave, 12°35'131"N 54°21'102"E, ca. 30 m inside, 14.I.2003, leg. S. Taiti & A. K. Nasher, MAZUF-9238; 1 ♂, Arresh, Diehamt, 12°35'26.8"N 53°48'54.6"E, 18 m, 11.I.2003, leg. S. Taiti, MZUF-9239; 2 ♀♀, same data, NHCY (MZUF).

Distribution. Species endemic to the Socotra Archipelago (Socotra and Samha islands).

Family Trachelipodidae

Genus *Panchaia* Taiti & Ferrara, 2004

Type-species: *Panchaia striata* Taiti & Ferrara, 2004 by original designation.

Panchaia striata Taiti & Ferrara, 2004

Panchaia striata Taiti & Ferrara, 2004: 263, figs 34–36, pl. 11.

Material examined. Socotra: 4 ♂♂, 7 ♀♀, 5 juvs, Hagghier Mts, Adho Dimelho, 980 m, under stones in meadow, 12°34'19.9"N 54°02'49.4"E, 22.I.2003, leg. S. Taiti, MZUF-9240; 5 ♂♂, 6 ♀♀, same data, NHCY (MZUF); 4 ♂♂, 5 ♀♀, Hagghier Mts, Adho Dimelho, 1000 m, 12°34'19.1"N 54°02'52.9"E, 22.I.2003, leg. S. Taiti, MZUF-9241; 3 ♂♂, 5 ♀♀, 6 juvs, same data, NHCY (MZUF); 4 ♂♂, 2 ♀♀, 13 juvs, Hagghier Mts, near Adho Dimelho, 1100 m, 12°34'20.9"N 54°02'29.2"E, 22.I.2003, leg. S. Taiti, K. Van Damme & P. De Geest, MZUF-9242; 3 ♂♂, 2 ♀♀, same data, NHCY (MZUF);

Distribution. Species endemic to Socotra Island. The species occurs only on the Hagghier Mts above 900 m elevation.

Panchaia fusca Taiti & Ferrara, 2004

Panchaia fusca Taiti & Ferrara, 2004: 270, figs 39, 40, pl. 13.

Material examined. Socotra: 2 ♂♂, 1 ♀, Hagghier Mts, Adho Dimelho, 12°34'19.1"N 54°02'52.9"E, 1000 m, 22.I.2003, leg. S. Taiti, MZUF-9243, 2 ♂♂, 1 ♀, same data, NHCY (MZUF);.

Distribution. Species endemic to Socotra Island. It has been collected on the Hagghier Mts above 1000 m elevation.

Genus *Tamarida* Taiti & Ferrara, 2004

Type-species: *Tamarida setigera* Taiti & Ferrara, 2004 by original designation.

***Tamarida differens* Taiti & Ferrara, 2004**
Tamarida differens Taiti & Ferrara, 2004: 277, figs 44, 45, pl. 15.

Material examined. Socotra: 3 ♀♀, 1 juv., Qeysoh, 12°39'32"N 53°28'12"E, under palm logs in meadow, 20.I.2003, leg. S.Taiti, MZUF-9244; 2 ♂♂, 4 ♀♀, same locality, in palm grove, 20.I.2003, leg. S. Taiti, MZUF-9246; 5 ♀♀, same data, NHCY (MZUF); 1 ♂, 1 ♀, Wadi Ayhaft, 12°36'14.7"N 53°59'31.1"E, ca. 240 m, under stones near wadi, 21.I.2003, leg. S. Taiti, MZUF-9247; 2 ♂♂, 5 ♀♀, Lem-chegeranit, 12°35'04.5"N 53°30'49.3"E, under stones in meadow near pond, 12.I.2003, leg. S. Taiti, MZUF-9245; 3 ♂♂, 5 ♀♀, same data, NHCY (MZUF).

Distribution. Species endemic to Socotra Island.

Family Agnaridae

Genus Pseudoagnara Taiti & Ferrara, 2004
Type-species: *Pseudoagnara wraniki* Taiti & Ferrara, 2004 by original designation.

***Pseudoagnara wraniki* Taiti & Ferrara, 2004**
Pseudoagnara wraniki Taiti & Ferrara, 2004: 280, figs 46–48, pl. 16.

Material examined. Socotra: 3 ♂♂, 5 ♀♀, 2 juvs, Arresh, Diehamt, 12°35'26.8"N 53°48'54.6"E, 18 m, 11.I.2003, leg. S. Taiti, MZUF-9248; 2 ♂♂, 10 ♀♀, same data, NHCY (MZUF); 4 ♂♂, 8 ♀♀, ca. 15km E of Qalansiya, 12°37'34"N 53°36'30"E, under stones, 20.I.2003, leg. S. Taiti, MZUF-9249; 5 ♂♂, 5 ♀♀, same data, NHCY (MZUF); 1 ♂, 1 ♀, Wadi Ayhaft, 12°36'54.5"N 53°57'26.5"E, ca. 100 m, left side, limestone, under stones, 19.I.2003, leg. S. Taiti, MZUF-9251; 1 ♂, Wadi Ayhaft, 12°36'38.0"N 53°58'42.9"E, ca. 170 m, limestone, under stones, 21.I.2003, leg. S. Taiti, MZUF-9250; 1 ♂, 3 ♀♀, along path to Hoq Cave, 12°35'40.0"N 54°21'00.6"E, under stones, 170 m, 14.I.2003, leg. S. Taiti, MZUF-9252.

Distribution. Species endemic to Socotra Island.

Genus *Socotroniscus* Ferrara & Taiti, 1996
Type-species: *Socotroniscus sacciformis* Ferrara & Taiti, 1996 by original designation and monotypy.

Socotroniscus sacciformis Ferrara & Taiti, 1996
Socotroniscus sacciformis Ferrara & Taiti, 1996: 120, figs 1, 2; Ferrara & Taiti, 2004: 287, pls 18–20.

Material examined. Socotra: 5 ♂♂, 6 ♀♀, 5 juvs, Arresh, Diehamt, 12°35'26.8"N 53°48'54.6"E, 18 m, 11.I.2003, leg. S. Taiti, MZUF-9253; 4 ♂♂, 6 ♀♀, same data,

NHCY (MZUF); 5 ♂♂, 5 ♀♀, 8 juvs, Lem-chegeranit, 12°35'04.5"N 53°30'49.3"E, under stones in meadow near pool, 12.I.2003, leg. S. Taiti, MZUF-9254; 5 ♂♂, 5 ♀♀, same data, NHCY (MZUF); 1 ♀, 1 juv., Moeqehar, 12°32'39.5"N 53°34'46.2"E, 11.I.2003, leg. S. Taiti, MZUF-9255; 4 ♂♂, 2 ♀♀, Kathar, 12°29'48.4"N 53°39'29.3"E, 11.I.2003, leg. S. Taiti, MZUF-9256; 3 ♂♂, same data, NHCY (MZUF); 3 ♂♂, 2 ♀♀, Diksam, near Giniba Cave, 6.I.2003, leg. K. Van Damme, MZUF-9257; 1 ♂, 1 ♀, 1 juv., along path to Hoq Cave, 12°35'40"N 54°21'00.6"E, 170 m, under stones, 14.I.2003, leg. S. Taiti, MZUF-9259; 1 ♂, 1 ♀, along path from Wadi Daneghan to Adho Dimelho, 12°35'22.4"N 54°02'58.3"E, 550 m, under stones near spring, 22.I.2003, leg. S. Taiti, MZUF-9260; 9 ♂♂, Abelhen, 12°36'19"N 54°19'14"E, 28.VI.2004, leg. V. Bartolino, MZUF-9261; 2 ♀♀, Momi, near Kazekas Cave, under stones, 12°33'20.9"N 54°18'23.1"E, 15.I.2003, ca. 500 m, leg. S. Taiti, MZUF-9258; 5 ♂♂, 2 ♀♀, same data, MZUF-9262; 2 ♂♂, 4 ♀♀, Wadi Ayhaft, 12°36'14.7"N 53°59'31.1"E, ca. 240 m, granite, under stones near wadi, 21.I.2003, leg. S. Taiti, MZUF-9263; 5 ♀♀, 18 juvs, same data, NHCY (MZUF); 4 ♂♂, 5 ♀♀, 2 juvs, Wadi Ayaft 12°36'38"N 53°58'42.9"E, ca.170 m, limestone, under stones, 21.I.2003, leg. S. Taiti, MZUF-9264; 8 ♂♂, 5 ♀♀, Ma'lih, Hafoer-e-megademihan, 12°38'39.8"N 53°26'09.2"E, 510 m, 12.I.2003, leg. S. Taiti, MZUF-9266; 7 ♂♂, 5 ♀♀, same data, NHCY (MZUF); 4 ♂♂, 9 ♀♀, 12 juvs, Ma'lih, Fisreher, 12°37'38"N 53°30'42"E, 690 m, along wadi, 12.I.2003, leg. S. Taiti and A. K. Nasher, MZUF-9265; 2 ♂♂, 5 ♀♀, same data, NHCY (MZUF).

Distribution. Species endemic to the islands of Socotra, Darsa and Samha.

Remarks. As pointed out in Taiti and Ferrara (2004) this species shows a great variability in the colour pattern and dorsal granulation, while the male characters are very stable in the different populations. The colour varies from pale cephalon, pereion, pleon epimera, telson and uropods, and dark pleonal tergites (Pl. 18 in Taiti and Ferrara 2004), to dark brown-grey with pale uropods and distal part of telson (Pl. 19 in Taiti and Ferrara 2004), to reddish as in some specimens from Samha (Pl. 20 in Taiti and Ferrara 2004) and western Socotra. The dark brown-grey specimens usually show more developed dorsal granulations. A molecular study of the different populations is necessary to find out if we are in front of a single variable species or to a complex of closely related species.

Family Eubelidae

Genus *Xeroniscus* Ferrara & Taiti, 1990

Type-species: *Periscyphis brevicaudatus* Ferrara, 1973 by original designation.

Xeroniscus angusticauda Ferrara & Taiti, 1990

Xeroniscus angusticauda Taiti & Ferrara, 2004: 289, fig. 51.

Material examined. Socotra: 4 ♂♂, 4 ♀♀, Hadibo, 12°39'N 54°01'E, under stones, 11.I.2003, leg. S. Taiti, MZUF-9267; 3 ♂♂, 3 ♀♀, same data, NHCY (MZUF).

Distribution. Continental Yemen and Socotra Island. On Socotra the species has certainly been introduced since it has been collected only in and around houses in Hadibo.

Genus *Periscyphis* Gerstaecker, 1873

Type-species: *Periscyphis trivialis* Gerstaecker, 1873 by monotypy.

Periscyphis vittatus Omer-Cooper, 1926

Periscyphis vittatus Taiti & Ferrara 2004: 290, pl. 21.

Material examined. Socotra: 1 ♂, 1 ♀, Ras Momi, Wadi Erher, 12°33'02.7"N 54°27'35.7"E, 16.I.2003, leg. S. Taiti, MZUF-9268; 1 ♀, 1 juv., Hoveg, 12°37'55.4"N 54°15'47.0"E, 16.I.2003, leg. S. Taiti, MZUF-9269; 1 ♂, 1 ♀, 1 juv., Qalansiya Lagoon, Detwah Protected Area, 12°41'55.4"N 53°29'58.1"E, 20.I.2003, leg. S. Taiti, MZUF-9270; 1 ♂, 1 ♀, Abelhen, 12°36'19"N 54°19'14"E, 28.IV.2004, leg. V. Bartolino, MZUF-9271; 2 ♂♂, 1 ♀, same data, NHCY (MZUF).

Distribution. Somalia, Eritrea, Djibouti, Saudi Arabia, United Arab Emirates, Oman, Yemen, Mozambique and Pakistan (Karachi).

Genus *Somalodillo* Taiti & Ferrara, 1982

Type-species: *Somalodillo squamatus* Taiti & Ferrara, 1982 by original designation.

Somalodillo sulcatus Taiti & Ferrara, 2004

Somalodillo sulcatus Taiti & Ferrara, 2004: 291, figs 52, 53, pl. 23.

Material examined. Socotra: 1 ♂, along path to Hoq Cave, 12°35'40"N 54°21'00.6"E, 170 m, under stones, 14.I.2003, leg. S. Taiti, MZUF-9279.

Distribution. Species endemic to Socotra Island.

Genus *Somalodilloides* Taiti & Ferrara, 2004

Type-species: *Somalodilloides laticauda* Taiti & Ferrara, 2004 by original designation.

Somalodilloides laticauda Taiti & Ferrara, 2004

Somalodilloides laticauda Taiti & Ferrara, 2004: 294, figs 54–57, pl. 24.

Material examined. Socotra: 1 ♀, Hagghier Mts, near Adho Dimelho, 12°34'20.9"N 54°02'29.2"E, 1100 m, 22.I.2003, S. Taiti, K. Van Damme & P. De Geest, MZUF-9272.

Distribution. Species endemic to Socotra Island.

***Somalodilloides pilosus* Taiti & Ferrara, 2004**

Somalodilloides pilosus Taiti & Ferrara, 2004: 298, figs 58, 59, pl. 25.

Material examined. Socotra: many ♂♂ and ♀♀, Qeysoh, 12°39'32"N 53°28'32"E, in palm grove, 20.I.2003, leg. S. Taiti, MZUF-9273; 5 ♂♂, 5 ♀♀, same data, NHCY (MZUF).

Distribution. Species endemic to Socotra Island.

Genus *Dioscoridillo* Ferrara & Taiti, 1996

Type-species: *Dioscoridillo melanoleucos* Ferrara & Taiti, 1996 by original designation and monotypy.

***Dioscoridillo melanoleucos* Ferrara & Taiti, 1996**

Dioscoridillo melanoleucos Ferrara & Taiti, 1996: 132, fig. 8; Taiti & Ferrara, 2004: 302, fig. 60, pl. 26.

Material examined. Socotra: many ♂♂ and ♀♀, Lem-chegeranit, 12°35'04.5"N 53°30'49.3"E, under stones in meadow near pool, 12.I.2003, leg. S. Taiti, MZUF-9274; 5 ♂♂, 5 ♀♀, same data, NHCY (MZUF); 5 ♂♂, 3 ♀♀, Ma'lih, Fisreher, 12°37'38"N 53°30'42"E, along wadi, 690 m, 12.I.2003, leg. S. Taiti and A. K. Nasher, MZUF-9275; 2 ♂♂, 2 ♀♀, same data, NHCY (MZUF).

Remarks. These specimens and those from SW of Qeysoh cited in Taiti and Ferrara (2004) have an uniformly pale instead of grey colour (see pl. 26 in Taiti and Ferrara 2004) as in the populations from Nojid, Wadi Ayhaft, Diksam, Hagghier Mts and Momi, while all morphological characters are identical. As in the case of *Socotroniscus sacciformis*, a molecular analysis is necessary to confirm that the pale and grey forms belong to the same species.

Distribution. The species is endemic to Socotra Island.

***Dioscoridillo cavicolus* Taiti & Ferrara, 2004**

Dioscoridillo cavicolus Taiti & Ferrara, 2004: 308, figs 64, 65, pl. 29.

Material examined. Socotra: 1 ♀, Momi, Kazekas Cave, 12°33'16.8"N 54°18'36.3"E, ca. 500 m, 4.I.2003, leg. P. De Geest, MZUF-9276; 2 ♀♀, Hoq Cave, ca. 100 m inside, 12°35'07.9"N 54°21'06.1"E, 14.I.2003, leg. S. Taiti and A. K. Nasher, MZUF-9277.

Distribution. Species endemic to Socotra Island.

***Dioscoridillo pubescens* Taiti & Ferrara, 2004**

Dioscoridillo pubescens Taiti & Ferrara, 2004: 308, figs 66, 67, pl. 30.

Material examined. Socotra: 1 ♂, 1 ♀, Wadi Ayhaft, 12°36'54.5"N 53°57'26.5"E, ca. 100 m, left side, limestone, under stones, 19.I.2003, leg. S. Taiti, MZUF-9278.

Distribution. Species endemic to Socotra Island.

Table 1. List of Oniscidea species from the Socotra Archipelago.

		Socotra	Darsa	Samha	Abd Al-Kuri
1	*Ligia pigmentata*	x			
2	*Ligia dioscorides*	x	x	x	
3	*Tylos exiguus*	x			
4	*Olibrinus antennatus*	x			
5	*Adoniscus fluvialitis*	x			
6	*Paradoniscus aquaticus*			x	
7	*Paradoniscus degeesti*	x			
8	*Littorophiloscia tropicalis*	x	x	x	
9	*Littorophiloscia culebrae*				x
10	*Uluguroscia obscura*	x			
11	*Uluguroscia pohli*	x			
12	*Uluguroscia vandammei*				x
13	*Burmoniscus anophthalmus*	x			
14	*Serendibia vagans*	x			
15	*Serendibia filiformis*	x			
16	*Serendibia samhaensis*			x	
17	*Serendibia cavernicola* sp. n.	x			
18	*Dumetoniscus graniticus* gen. n., sp. n.	x			
19	*Platyarthrus schoblii*	x		x	x
20	*Platyarthrus alticolus* sp. n.	x			
21	*Niambia septentrionalis*	x		x	
22	*Panchaia striata*	x			
23	*Panchaia marmorata*	x			
24	*Panchaia fusca*	x			
25	*Tamarida setigera*	x			
26	*Tamarida differens*	x			
27	*Agnara* cf. *madagascariensis*	x			
28	*Pseudoagnara wraniki*	x			
29	*Pseudoagnara abdalkurii*				x
30	*Socotroniscus sacciformis*	x	x	x	
31	*Xeroniscus angusticauda*	x			
32	*Periscyphis vittatus*	x			
33	*Somalodillo paeninsulae*	x			x
34	*Somalodillo sulcatus*	x			
35	*Somalodilloides laticauda*	x			
36	*Somalodilloides pilosus*	x			
37	*Dioscoridillo melanoleucos*	x			
38	*Dioscoridillo montanus*	x			
39	*Dioscoridillo cavicolus*	x			
40	*Dioscoridillo pubescens*	x			
41	Armadillidae gesp. n.			x	
		35	**3**	**8**	**5**

Discussion

Twenty-seven species of terrestrial isopods from Socotra Island have been recorded in this contribution, including one new genus (*Dumetoniscus*) and three new species (*Serendibia cavernicola*, *Dumetoniscus graniticus* and *Platyarthrus alticolus*). The total number of Oniscidea known from the Socotra Archipelago is now 41 (Table 1), of which 35 occur on Socotra, three on Darsa, eight on Samha and five on Abd al-Kuri. During the visit of S. Taiti to Socotra in January 2003 also the inland western and the extreme eastern part of Socotra Island, from where no records were previously known, has been investigated. The recorded distribution of the oniscidean species in the Socotra Archipelago is shown in Fig. 8. With the three new species described in this contribution the number of species endemic to the Socotra Archipelago rise to 30, a very high number which demonstrates the long isolation and evolutionary history of the onisci-

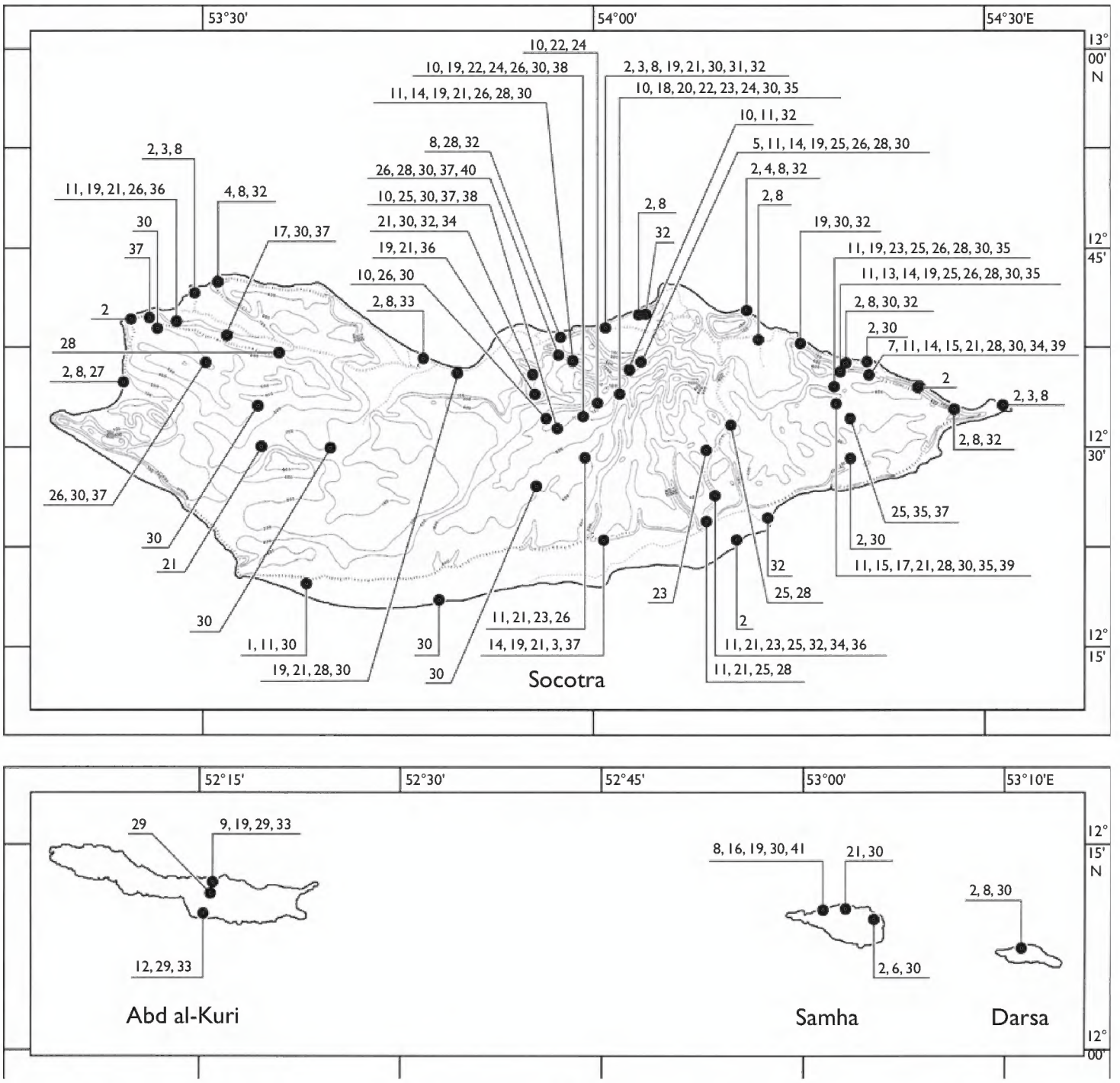

Figure 8. Recorded distribution of the terrestrial Isopoda species from the Socotra Archipelago. The numbers refer to the species listed in Table 1 (modified after Taiti and Ferrara 2004).

dean fauna of these islands. The new records confirm the biogeographical conclusions already documented by Taiti and Ferrara (2004) with affinities with the Afrotropical Region, in particular East Africa, with the Oriental Region and, to a lesser extent, with the Mediterranean Subregion. Of particular interest is the presence of the new species *Platyarthrus alticolus.* This species belongs to the *schoblii*-group which has a Mediterranean and Atlantic distribution. While the Mediterranean *Platyarthrus schoblii*, the other species in the genus present on the archipelago, is certainly introduced with human activities, the new species most probably originated on the island, as its presence only at high altitude on the Hagghier Mts seems to demonstrate. Similarly to *Ligia dioscorides*, *P. alticolus* may have originated from a taxon present when the Mediterranean was connected with the Indian Ocean, diverging from it after the closure of the connection.

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